

NOTES:

1. ALL CONCRETE SHALL BE CLASS "A" 3,000 PSI CONCRETE.
2. STORM SEWER PIPE MATERIAL TO BE R.C.P. (CLASS III) UNLESS OTHERWISE APPROVED BY THE CITY OF KILLEEN.

**CITY OF KILLEEN**  
DEPARTMENT OF PUBLIC WORKS

**CURB DRAIN INLET**  
**TYPICAL SECTION**

CONSTRUCTION STANDARDS AND DETAILS



D-02

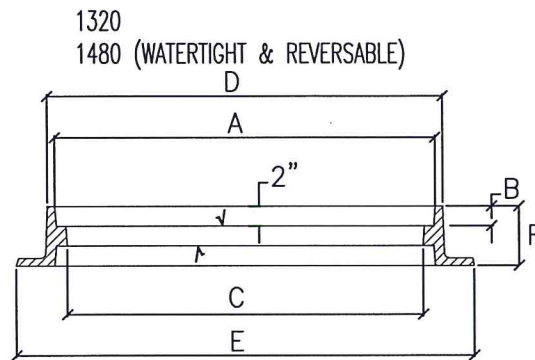
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ISSUE DATE: 07-24-12

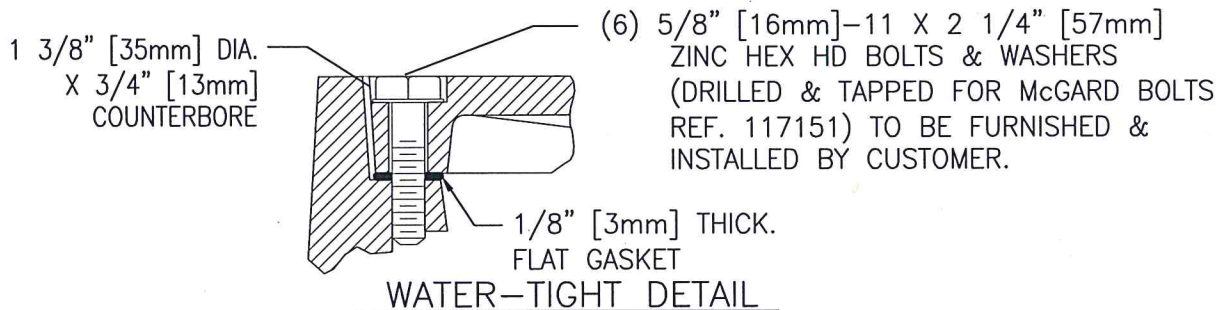


NOTE:  
LID SHALL HAVE TWO (2)  
TYPE 4 PICK BARS AND  
AND LABELED "STORM DRAIN"

EMBLEM TO BE PROVIDED BY  
CITY OF KILLEEN PUBLIC WORKS



THE WATER-TIGHT MANHOLE SETS FEATURE SIX STAINLESS STEEL  
BOLTS IN COUNTERSUNK POCKETS AND A SEALING FLAT GASKET IN THE RING SET.  
BOLTING PADS REDUCE THE STANDARD CLEAR OPENING BY TWO TO THREE INCHES.



	DIMENSIONS						TOTAL
	A	B	C	D	E	F	WEIGHT
1320	32	1 1/2	30	34 7/16	46	6 1/2	505 LBS
1480	32	1 1/2	30	32 1/4	38	4	350 LBS

**CITY OF KILLEEN**  
DEPARTMENT OF PUBLIC WORKS

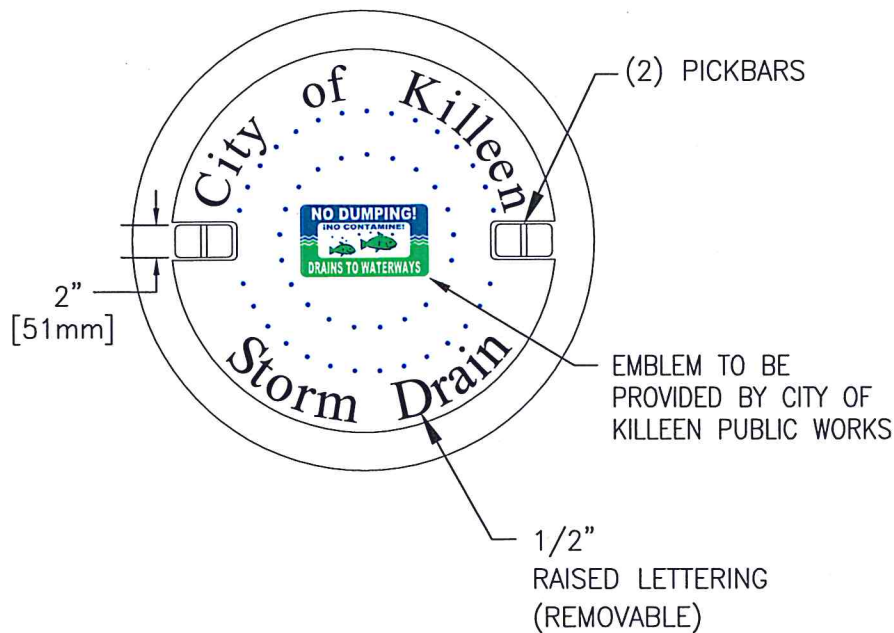
**STANDARD STORM SEWER  
MANHOLE SET**

CONSTRUCTION STANDARDS AND DETAILS

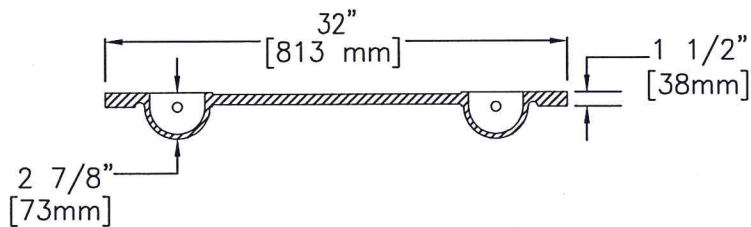


D-03  
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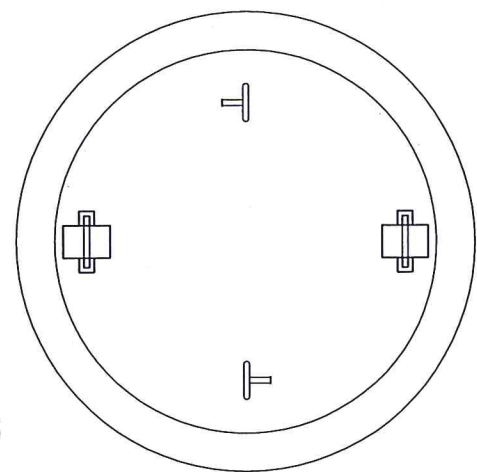




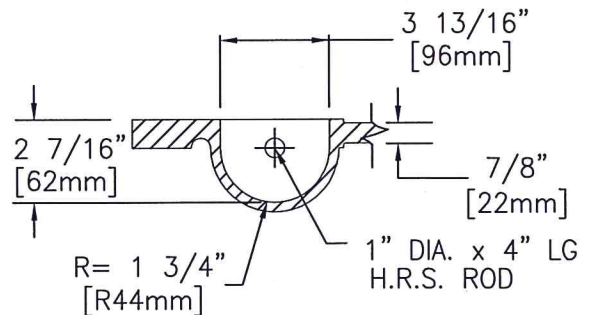
PLAN VIEW



CROSS SECTION



BOTTOM VIEW



PICKBAR DETAIL

#### V1432 LOGO COVER

MANHOLE COVER MANUFACTURED BY : EAST JORDAN IRON WORKS, INC

P.O. BOX 439 EAST JORDAN, MI. 49727

1-800-874-410 FAX 231-536-4100

PRODUCT NUMBER: NCR02-1762 STM DRN

CATALOG NUMBER: V1432

EST. WT. COVER - 210 LBS / 95 kg

MATERIAL SPEC: COVER - GRAY IRON ASTM A48 CL35

LOAD RATING: HEAVY DUTY

**CITY OF KILLEEN**  
DEPARTMENT OF PUBLIC WORKS

**STANDARD STORM DRAIN**  
**MANHOLE SET**

CONSTRUCTION STANDARDS AND DETAILS



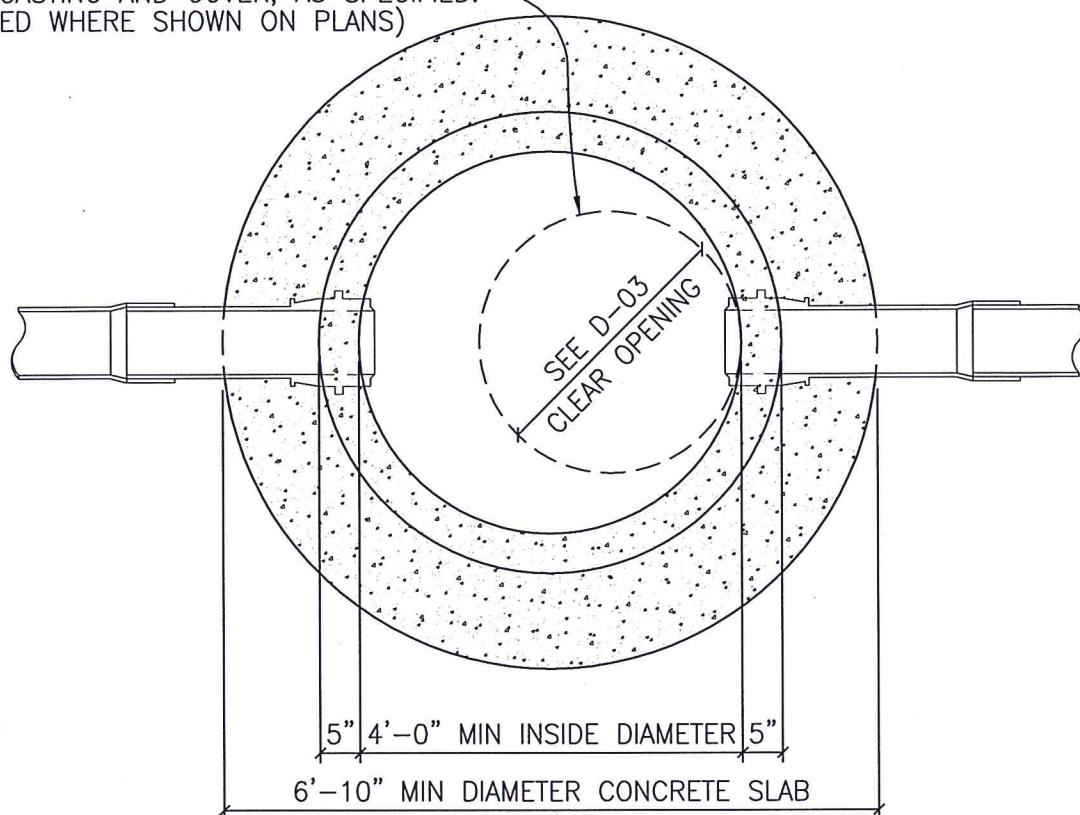
D-04

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STANDARD CASTING AND COVER, AS SPECIFIED.  
(BOLTED WHERE SHOWN ON PLANS)



MANHOLE PLAN

CITY OF KILLEEN NOTES:

MANHOLE DETAILS SHALL REFLECT THE CITY'S MINIMUM SPECIFICATIONS, AS STATED BELOW:

- A. ALL MANHOLES SHALL BE 48" I.D., R.C.P., CLASS III, WITH RUBBER O-RING GASKET JOINTS CONFORMING TO ASTM C478, C433 AND C76.
- B. ALL MANHOLES SHALL HAVE FRAME AND COVER, AS MANUFACTURED BY EAST JORDAN IRON WORKS (AS PER DETAIL # D-03/D-04) OR APPROVED EQUIVALENT.
- C. ALL MANHOLES SHALL BE CONCRETE WITH CAST IRON FRAME AND COVER.
- D. ALL MANHOLES SHALL HAVE AN ECCENTRIC CONE.
- E. INVERTS AND FLEXIBLE SEAL BOOTS, PER ASTM C-923, SHALL BE CAST INTO BASE SECTION.
- F. MINIMUM DROP BETWEEN INVERTS SHALL BE ONE-TENTH OF A FOOT (0.1').
- G. GRADE RINGS WITH AN I.D. TO MATCH FRAMES CLEAR OPENING WITH A MAXIMUM OF THREE (3) GRADE RINGS ALLOWED.

**CITY OF KILLEEN**  
DEPARTMENT OF PUBLIC WORKS

**STANDARD STORM SEWER**  
**MANHOLE – PLAN**

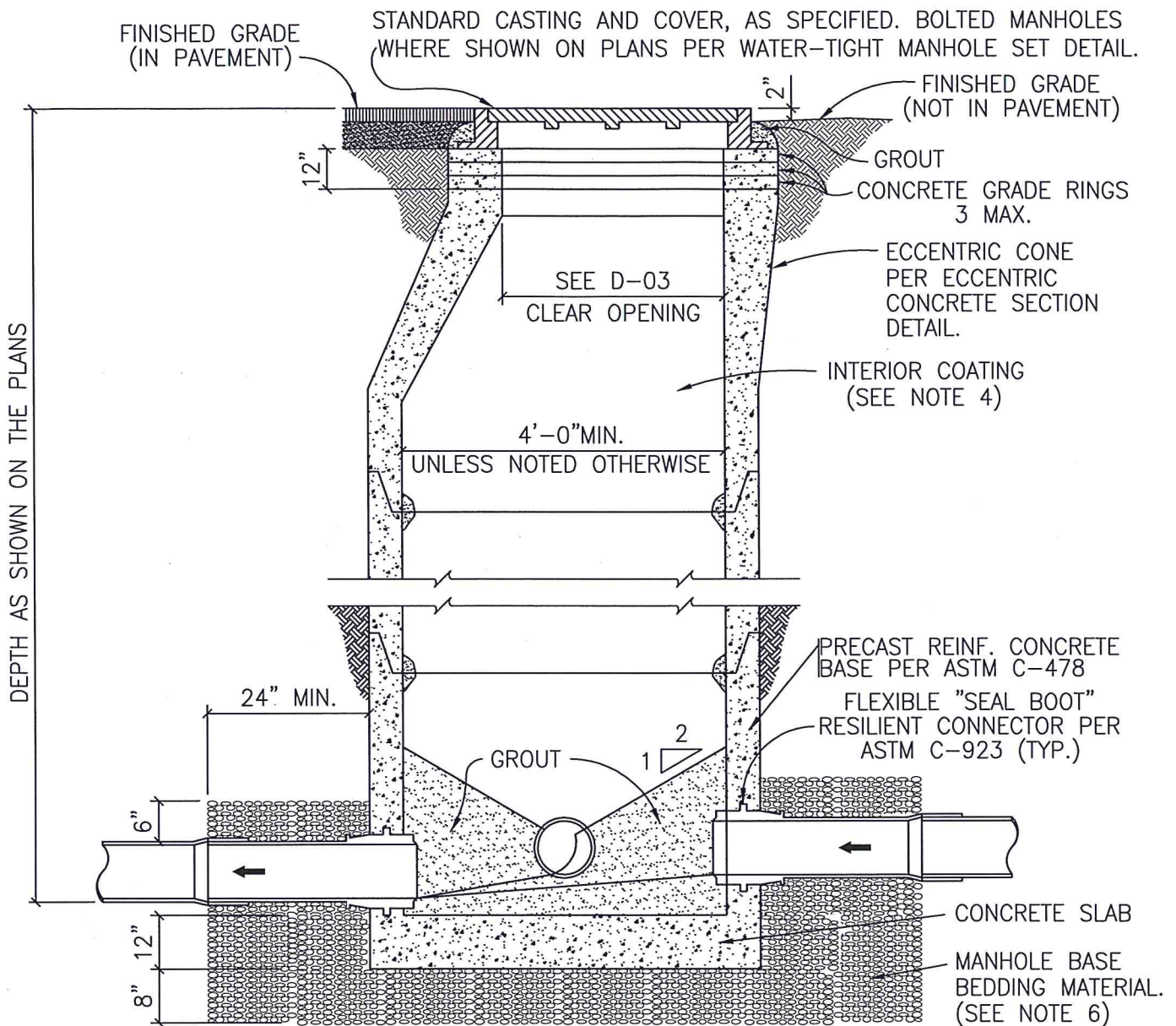
CONSTRUCTION STANDARDS AND DETAILS



D-05

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ISSUE DATE: 07-24-12



NOTES:

1. MANHOLES SHALL BE PRECAST ASTM C-478 BELL AND SPIGOT WITH "O" RING JOINTS.
2. SEE PLANS AND MANHOLE SCHEDULE, FOR MANHOLE SIZE, LOCATION, CONFIGURATION, TYPE OF TOP SECTION, VENTING REQUIREMENTS, PIPE SIZE AND TYPES.
3. SEE SPECIFICATIONS ON MATERIALS AND CONSTRUCTION.
4. ALL MANHOLE COVERS SHALL BE BOLTED AND GASKETTED WHEN MANHOLES ARE LOCATED OUT FROM PAVEMENT.
5. MANHOLES ARE TO BE DESIGNED TO RESIST LATERAL AND VERTICAL SOIL FORCES RESULTING FROM MANHOLE DEPTH. ADDITIONALLY, MANHOLES LOCATED IN PAVEMENT TO BE DESIGNED FOR HS-20 TRAFFIC LOADS.
6. MANHOLE BASE BEDDING MATERIAL SPECS. FOR 3/4" WASHED GRAVEL:  
 SIEVE SIZE 2", PERCENT (%) RETAINED 0  
 SIEVE SIZE 1 1/2", % RETAINED 0-10  
 SIEVE SIZE 1", % RETAINED 45-80  
 SIEVE SIZE 3/4", % RETAINED 85-100  
 SIEVE SIZE 3/8", % RETAINED 95-100

**CITY OF KILLEEN**  
 DEPARTMENT OF PUBLIC WORKS

**STANDARD STORM SEWER  
 MANHOLE – SECTION**

CONSTRUCTION STANDARDS AND DETAILS



D-06

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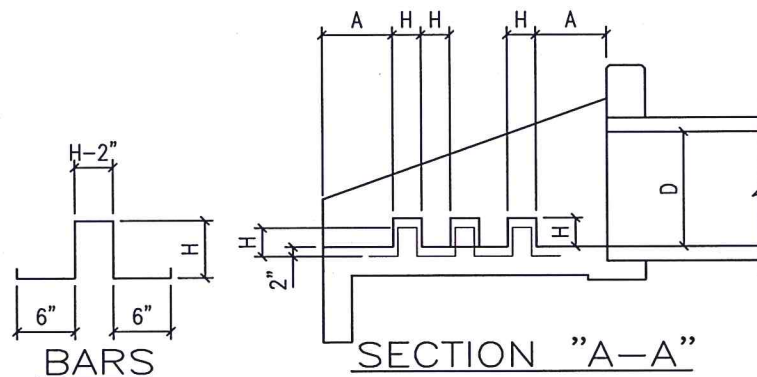
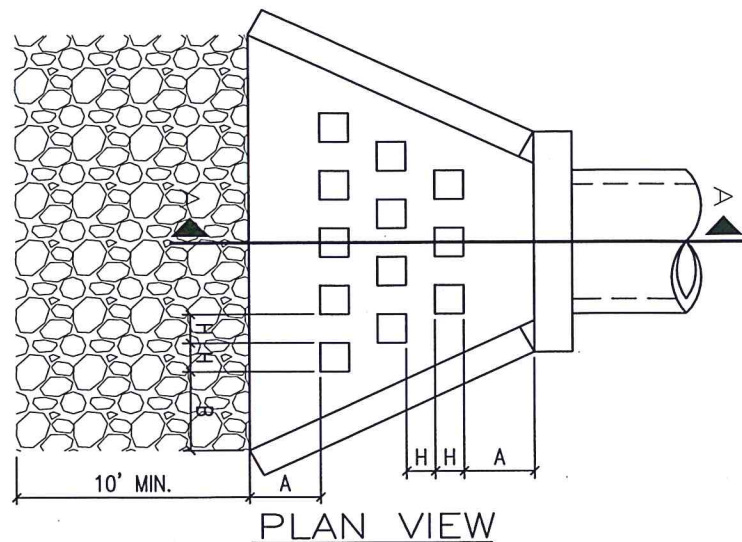
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ROCK RIPRAP			
CLASS	D <sub>50</sub> (IN)	APRON LENGTH	APRON DEPTH
1	5	4D	3.5 D <sub>50</sub>
2	6	4D	3.3 D <sub>50</sub>
3	10	5D	2.4 D <sub>50</sub>
4	14	6D	2.2 D <sub>50</sub>
5	20	7D	2.0 D <sub>50</sub>
6	22	8D	2.0 D <sub>50</sub>



NOTES:

1. USE CLASS "A" CONCRETE, 3,000 PSI AT 28 DAYS, UNLESS NOTED.
2. REINFORCING STEEL - ASTM A615, GRADE 40, UNLESS NOTED.
3. LAP REINFORCING 30 BAR DIAMETERS MIN. AT SPLICES, UNLESS NOTED.
4. CHAMFER EXPOSED EDGES OF CONCRETE 3/4", UNLESS NOTED.
5. PLACE REINFORCING WITH THE CENTER OF THE OUTSIDE BARS 2 INCHES FROM THE SURFACE OF THE CONCRETE.

TABLE OF DIMENSIONS FOR ENERGY DISSIPATOR DETAIL

D PIPE DIAMETER (INCHES)	NUMBER OF ROWS OF DISSIPATORS	NUMBER OF DISSIPATORS IN FRONT ROW	H (INCHES)	A (INCHES)	B (INCHES)
12	1	3	4	4	9.1875
18	2	4	4 1/2	9 1/2	15.5625
24	2	5	6	14 3/4	16 1/2
30	3	6	7 1/2	12 1/2	14 3/8
36	3	6	9	16 1/4	18 5/16
42	3	6	10 1/2	20	22 1/4
48	3	6	12	23 3/4	26 1/4
54	3	6	13 1/2	27 1/2	27 3/4
60	3	6	15	31 1/4	31 5/8

CITY OF KILLEEN  
DEPARTMENT OF PUBLIC WORKS

ENERGY DISSIPATOR  
DETAIL

CONSTRUCTION STANDARDS AND DETAILS



D-08

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ISSUE DATE: 07-24-12

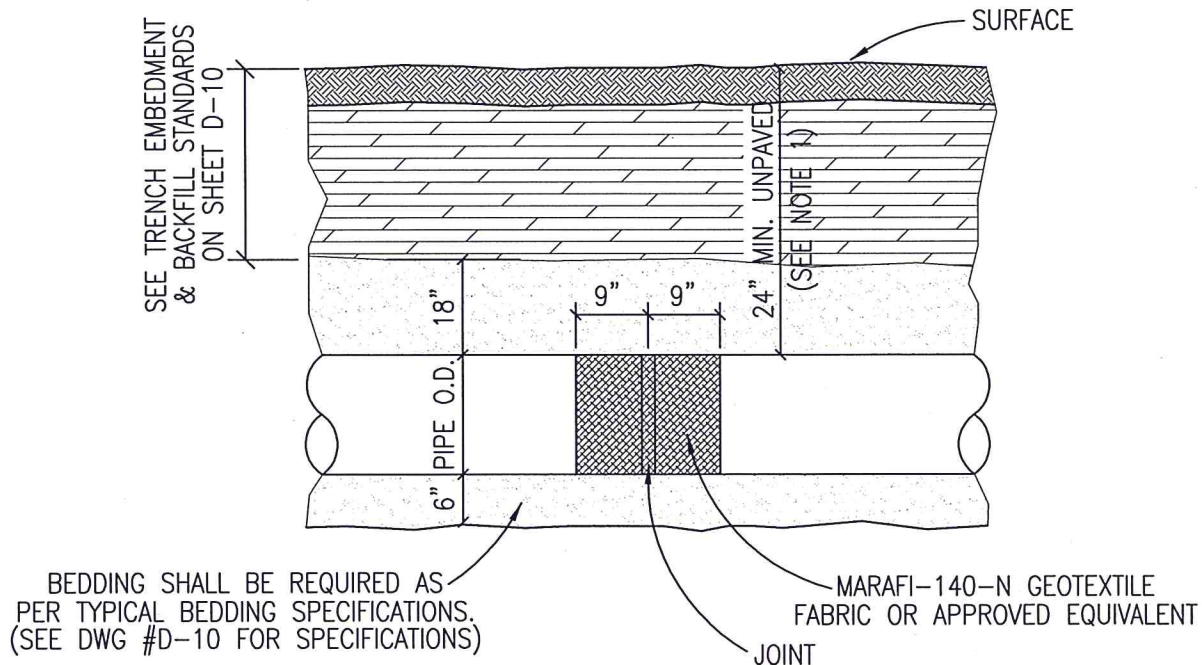
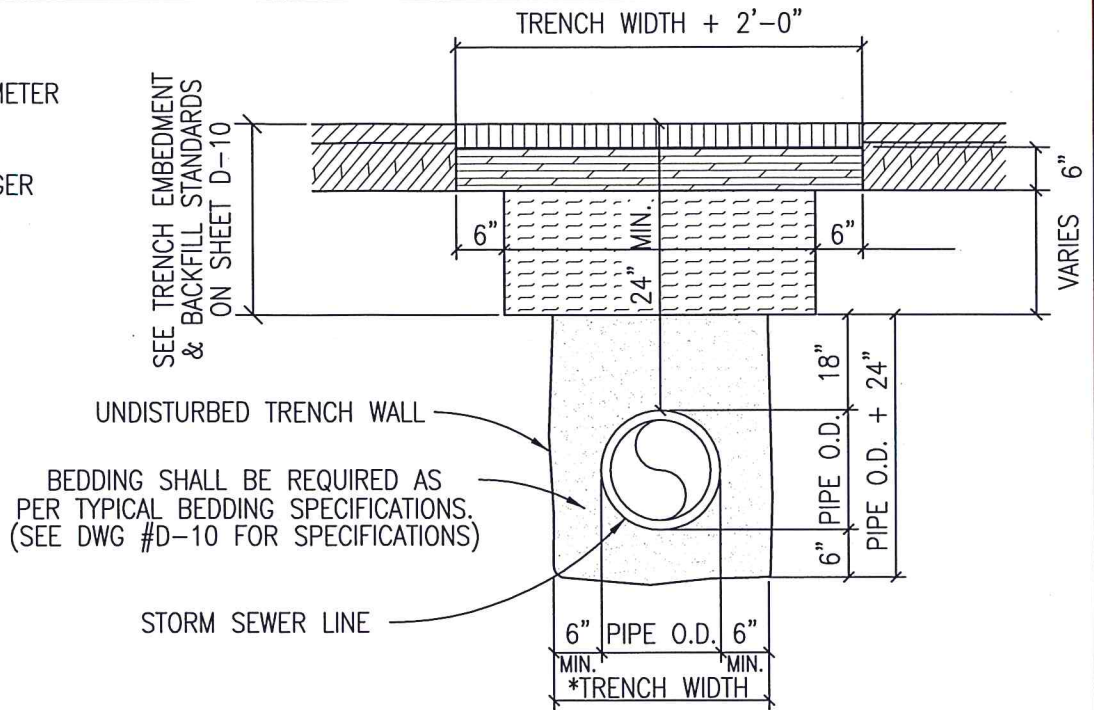
\*TRENCH WIDTH

### PIPE LESS THAN 20" DIAMETER

1'-0" + PIPE O.D.

20" DIAMETER AND LARGER

2'-0" + PIPE O.D.



CITY OF KILLEEN  
DEPARTMENT OF PUBLIC WORKS

# TRENCH AND EMBEDMENT DETAIL FOR STORM SEWER

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## CONSTRUCTION STANDARDS AND DETAILS



D-09

SCALE: N.T.S.

ISSUE DATE: 07-24-12



NOTES:

1. REPLACED BASE MATERIAL OVER TRENCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE.
2. BASE MATERIAL SHALL BE IN LIFTS NOT TO EXCEED 8" AND EACH LIFT THOROUGHLY ROLLED OR TAMPED TO SPECIFIED MAXIMUM DENSITY.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
4. SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE.
5. A MINIMUM OF ONE DENSITY TEST SHALL BE TAKEN EVERY TWO HUNDRED FIFTY (250) FEET FOR EACH SIX (6) INCH LIFT (10" FOR COMMON FILL OUTSIDE OF ROADWAY) OF SUBGRADE AND EACH OPEN CUT CROSSING. PROCTORS FOR MATERIALS USED IN BACKFILLING SHALL BE OBTAINED BY A CERTIFIED LABORATORY. DENSITY TESTS SHALL BE CONDUCTED BY A CERTIFIED LABORATORY OR THE PERMITTEE'S CONSULTANTS. THE PERCENTAGE OF MAXIMUM DENSITY REQUIRED SHALL BE AS STATED IN NOTE 7. ALL DENSITY TESTS SHALL BE COMPLETED AND ACCEPTED ON EACH LAYER PRIOR TO ADDITIONAL BACKFILLING. A COPY OF ALL COMPLETED AND ACCEPTED DENSITY TESTS SHALL BE FURNISHED TO CITY OF KILLEEN.
6. THESE SPECIFICATIONS MAY BE SUPERSEDED BY THE GOVERNING AGENCY.
7. FLEXIBLE BASE TYPE II: (SUPERFLEX)  
 TxDOT TYPE A - GRADE 2 CRUSHED LIMESTONE BASE COMPACTED  
 TO 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D1557 (METHOD D) AT OPTIMUM  
 MOISTURE +2%. PROCTER TO BE PROVIDED BY THE CONTRACTOR TO THE CITY INSPECTOR.  
 COMPACTED NATIVE MATERIAL: COMPACT PER FIELD DENSITY CONTROL REQUIREMENTS TABLE.  
 SELECT MATERIAL: COMPACT PER FIELD DENSITY CONTROL REQUIREMENTS TABLE.

**FIELD DENSITY CONTROL REQUIREMENTS**

DESCRIPTION	DENSITY	MOISTURE CONTROL
	TEX - 115 - E	
PI ≤ 15	≥ 98% MAXIMUM DRY DENSITY	
15 < PI ≤ 35	98% ≥ MAX. DRY DENSITY ≤ 102%	≥ OPTIMUM MOISTURE CONTENT
PI > 35	95% ≥ MAX. DRY DENSITY ≤ 100%	≥ OPTIMUM MOISTURE CONTENT

8. CONTRACTOR OR ENGINEER MAY USE FLOWABLE BACKFILL AS AN ALTERNATE BACKFILL MATERIAL (SEE ITEM 808 FLOWABLE BACKFILL FOR THE SPECIFICATION).
9. PIPE SHALL BE REINFORCED CONCRETE PIPE CLASS III UNLESS THE DEPTH OF PIPE REQUIRES A STRONGER CLASS. PIPE SHALL HAVE A MINIMUM OF 24" COVER IN UNPAVED AREAS AND 18" OF COVER FROM BOTTOM OF SUBGRADE IN PAVED AREAS. WHERE LESS THAN 36" OF COVER IS PROVIDED, CLASS IV REINFORCED CONCRETE PIPE SHALL BE USED. IN NO CASE SHALL A STORM SEWER HAVE LESS THAN 12" OF COVER OVER THE TOP OF PIPE.
10. HIGH DENSITY POLYETHYLENE (HDPE) PIPE MAY BE USED UP TO 48-INCHES IN DIAMETER IN UNPAVED AREAS OUTSIDE OF CITY STREETS.
11. ALL FITTINGS AND WYES SHALL BE MANUFACTURED AND NOT CONSTRUCTED ON THE PROJECT WITHOUT PRIOR APPROVAL FROM THE CITY.
12. ALL JOINTS THAT ARE NOT SEALED WITH A WATERTIGHT CONNECTION SHALL BE WRAPPED WITH MARAFI-140-N GEOTEXTILE FABRIC OR APPROVED EQUIVALENT. THE JOINT SHALL BE WRAPPED WITH 18" WIDE FABRIC SPLITTING THE JOINT.

**\*\* TYPICAL BEDDING SPECIFICATIONS:**

\* - SEE D-09 FOR TRENCH WIDTH DEFINITION.

	3/8" F	1/2" D	WASHED GRAVEL
SIEVE SIZE	% RETAINED	% RETAINED	% RETAINED
1/2"	0	0	0
3/8"	0-2	5-25	-
4m	40-85	80-100	-
10m	95-100	96-100	-
3/4"	-	-	100

**TRENCH EMBEDMENT AND BACKFILL STANDARDS**

	TRENCH WIDTH *		TRENCH WIDTH* + 1'	TRENCH WIDTH* + 2'					
	EMBEDMENT UNDER PIPE	BEDDING OVER PIPE	BACKFILL MATERIAL (SEE NOTE 7)	COMPACTED FLEXIBLE BASE (TYPE II)	2" HMAc TYPE 'D'	2,000 PSI CONCRETE	COMPACTED COMMON FILL	TOPSOIL	
UNDER EXISTING ROADWAY	6" MIN.	12" MIN.	24" MIN.	8" MIN.	1.5"				
UNDER PROPOSED ROADWAY	6" MIN.	12" MIN.	24" MIN.	8" MIN.	1.5"				
OUTSIDE OF ROADWAY	6" MIN.	12" MIN.					24" MIN.	6" MIN.	
CONCRETE TRENCH CAP	6" MIN.	12" MIN.				6"	24" MIN.	6" MIN.	

**CITY OF KILLEEN**  
DEPARTMENT OF PUBLIC WORKS

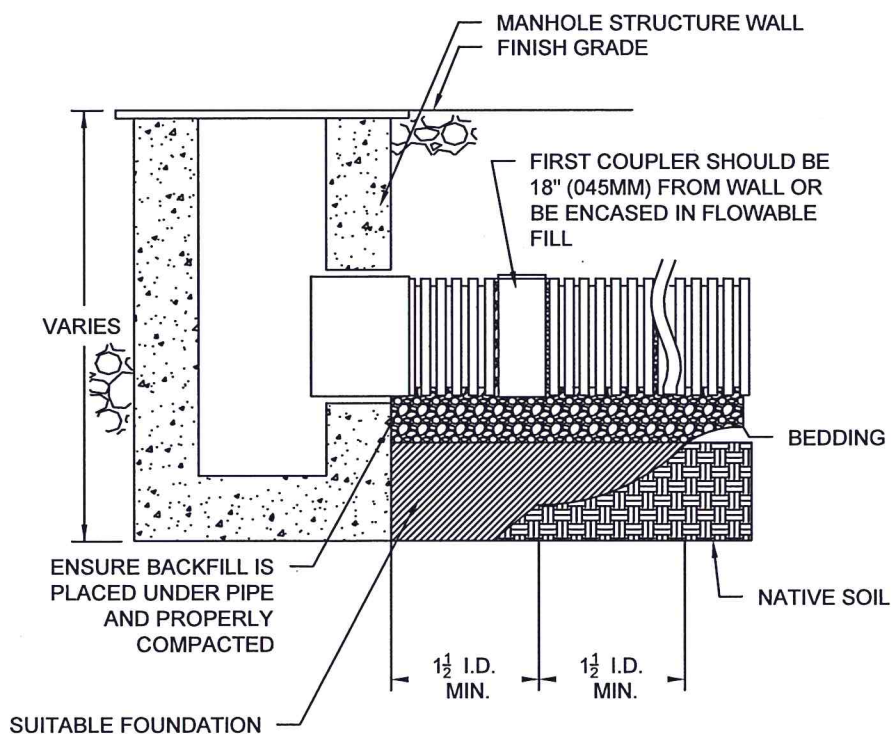
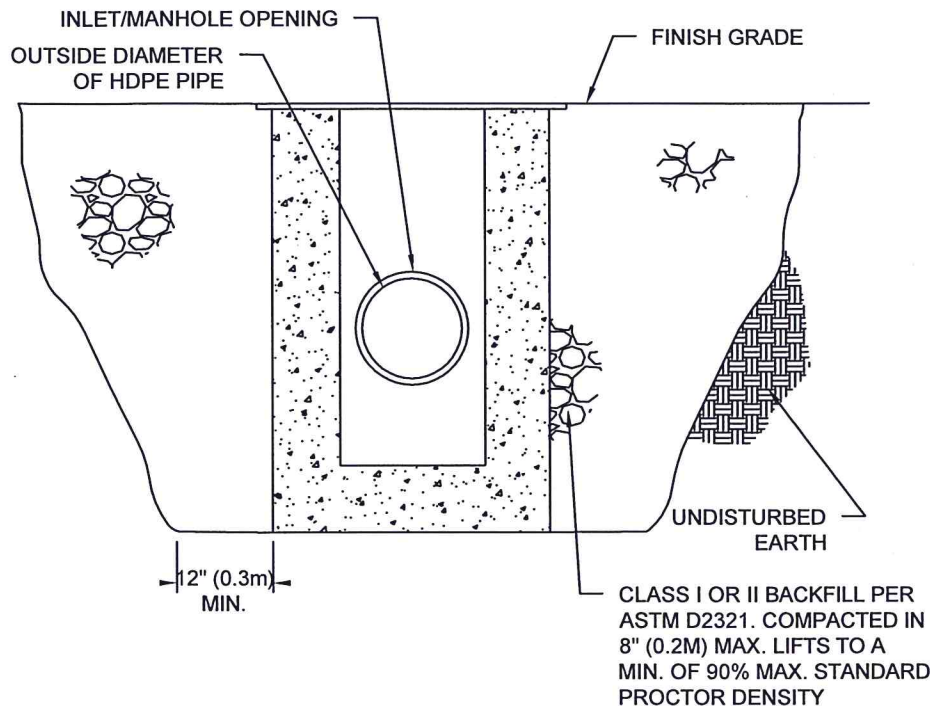
**TRENCH AND EMBEDMENT NOTES**  
**STORM SEWER**

**CONSTRUCTION STANDARDS AND DETAILS**



D-10  
SCALE: N.T.S.  
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NOTES:

1. MAXIMUM INSERTION ANGLE SHALL NOT EXCEED REQUIREMENTS AS SPECIFIED BY THE MANUFACTURER.
2. SEE STANDARD DETAILS D-12 THROUGH D-15 FOR STRUCTURE CONNECTION. PRODUCT INFORMATION AND DIMENSIONAL PIPE DATA.
3. CONTRACTOR SHALL ENSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURES ADAPTER. EXTRA PRECAUTIONS SHALL BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENTS BETWEEN THE PIPE AND INLET MANHOLE.

CITY OF KILLEEN  
DEPARTMENT OF PUBLIC WORKS

HDPE CONNECTION  
TO INLET / MANHOLE

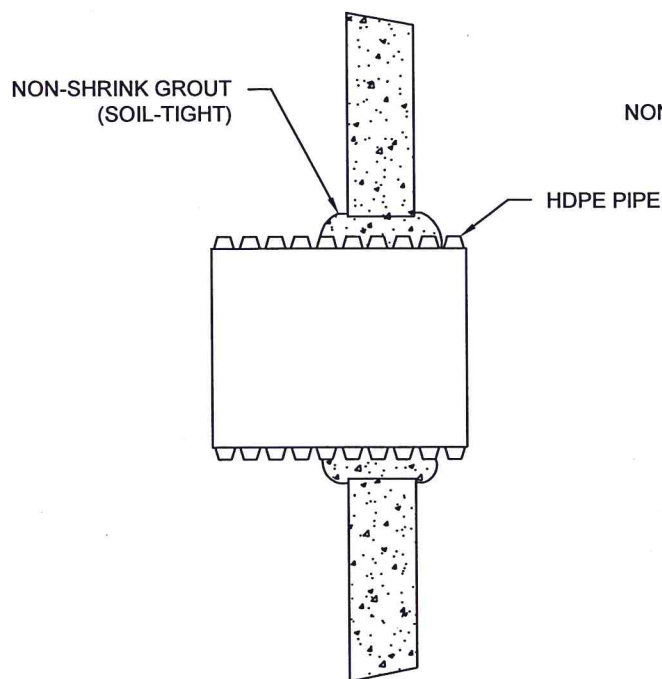
CONSTRUCTION STANDARDS AND DETAILS



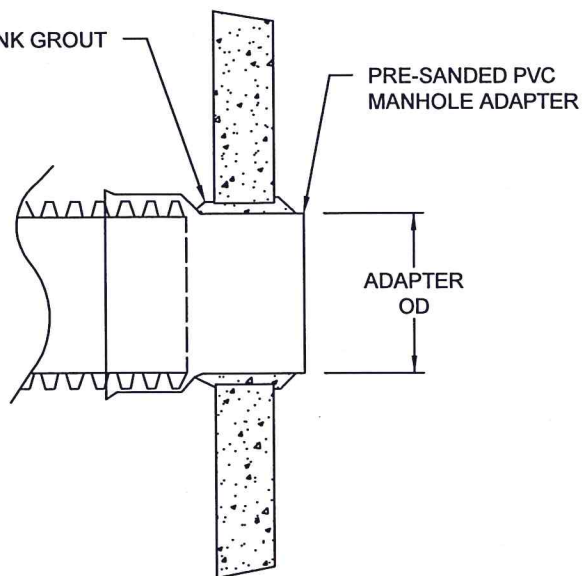
D-11

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ISSUE DATE: 07-24-12



TYPE 1: SOIL-TIGHT USING NON-SHRINK GROUT AND CORRUGATED PIPE



TYPE 2: SANDED PVC MANHOLE ADAPTER GROUTED INTO MANHOLE WALL

PIPE SIZE (IN)	ADAPTER OD (IN)	HANCOR PRODUCT CODES
18	18.7	1877AG
24	24.8	2477AG
30	32.0	3077AG

\*\*FOR USE WITH A PROFILE PIPE ONLY\*\*

**NOTE:**

1. SEE STANDARD DETAIL D-11 AND MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION RECOMMENDATIONS.
2. CONTRACTOR SHALL ENSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.

SEE STANDARD DETAIL D-11 AND MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION RECOMMENDATIONS.

**CITY OF KILLEEN**  
DEPARTMENT OF PUBLIC WORKS

**SOIL-TIGHT STRUCTURE  
CONNECTION TYPE 1 DETAIL**

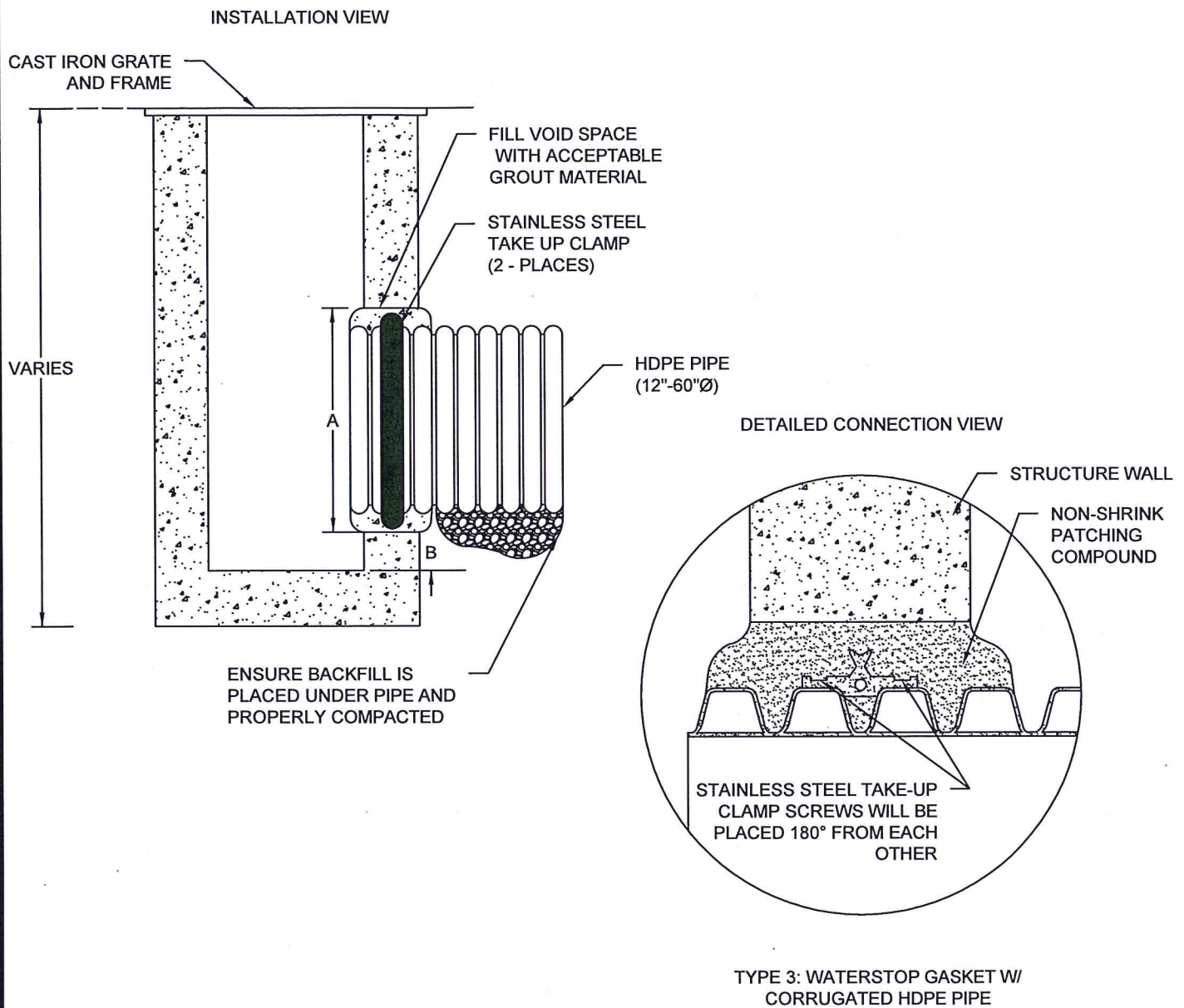
CONSTRUCTION STANDARDS AND DETAILS



D-12

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ISSUE DATE: 07-24-12



INSTALLATION RECOMMENDATIONS ARE ALSO SPECIFIED IN  
INSTALLATION GUIDE 1.06: WATERSTOP INSTALLATION

PIPE SIZE (IN)	PIPE OD (IN)		"A" MIN. HOLE Ø (IN)	"B" MIN. DISTANCE PIPE TO STRUCTURE INVERT (IN)	MANUFACTURER'S PRODUCT CODE
	A-PROFILE	H-PROFILE			
12	14.5	14.2	19.50	3.7	1202PS
15	17.6	17.8	23.00	4.0	1502PS
18	21.2	21.5	26.50	4.2	1802PS
24	27.8	28.4	33.25	4.5	2402PS
30	36.1	35.5	40.50	5.2	3002PS
36	41.1	41.4	47.50	5.5	3602PS
42	47.7	48.0	53.00	5.7	4202PS
48	53.6	54.0	59.00	5.7	4802PS
60	66.3	67.3	72.00	6.4	6002PS

**CITY OF KILLEEN**  
DEPARTMENT OF PUBLIC WORKS

**SOIL-TIGHT STRUCTURE  
CONNECTION TYPE 2 DETAIL**

CONSTRUCTION STANDARDS AND DETAILS

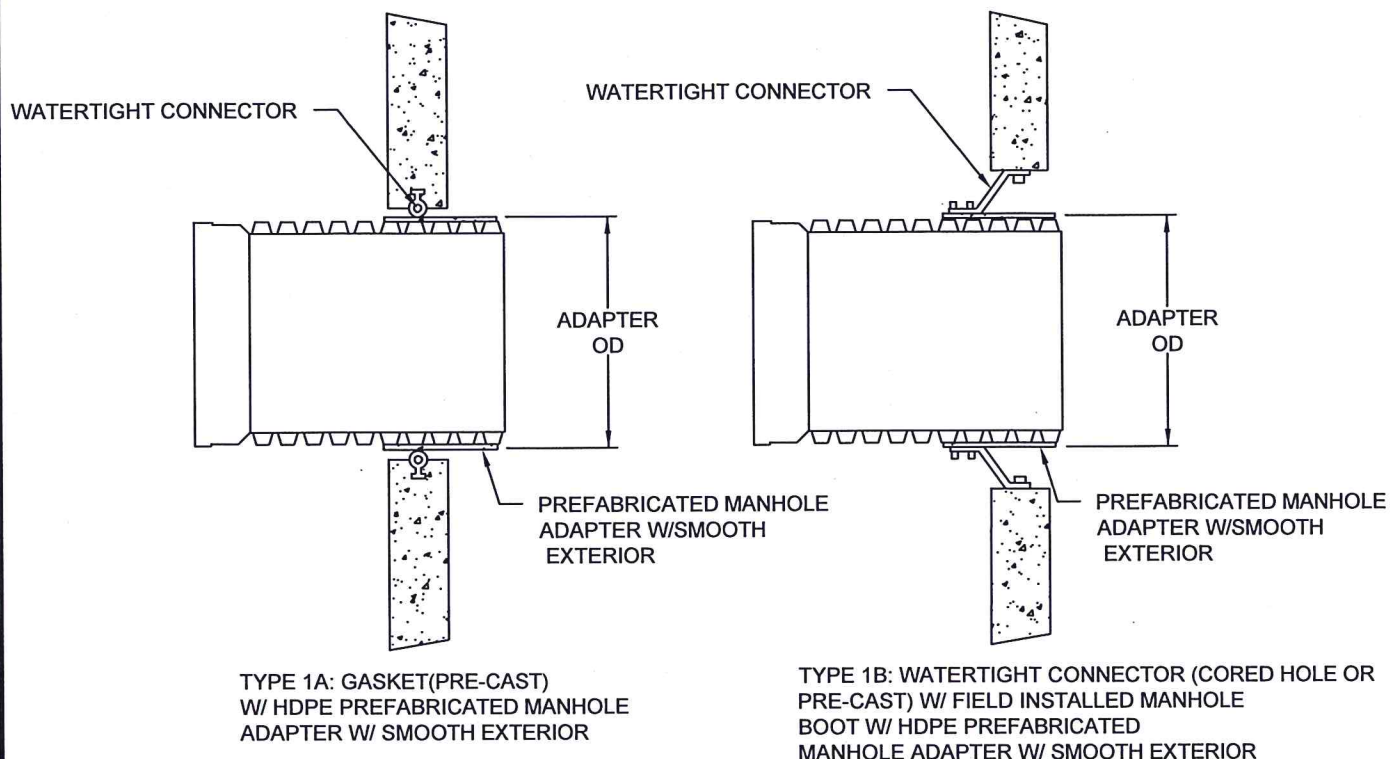


D-13

SCALE: N.T.S.

ISSUE DATE: 07-24-12





**NOTE:**

1. SEE STANDARD DETAIL D-11 AND MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION RECOMMENDATIONS.
2. CONTRACTOR SHALL ENSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.

SEE STANDARD DETAIL D-11 AND MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION RECOMMENDATIONS.

**CITY OF KILLEEN**  
DEPARTMENT OF PUBLIC WORKS

**WATERTIGHT STRUCTURE  
HDPE CONNECTION TYPE 1 DETAIL**

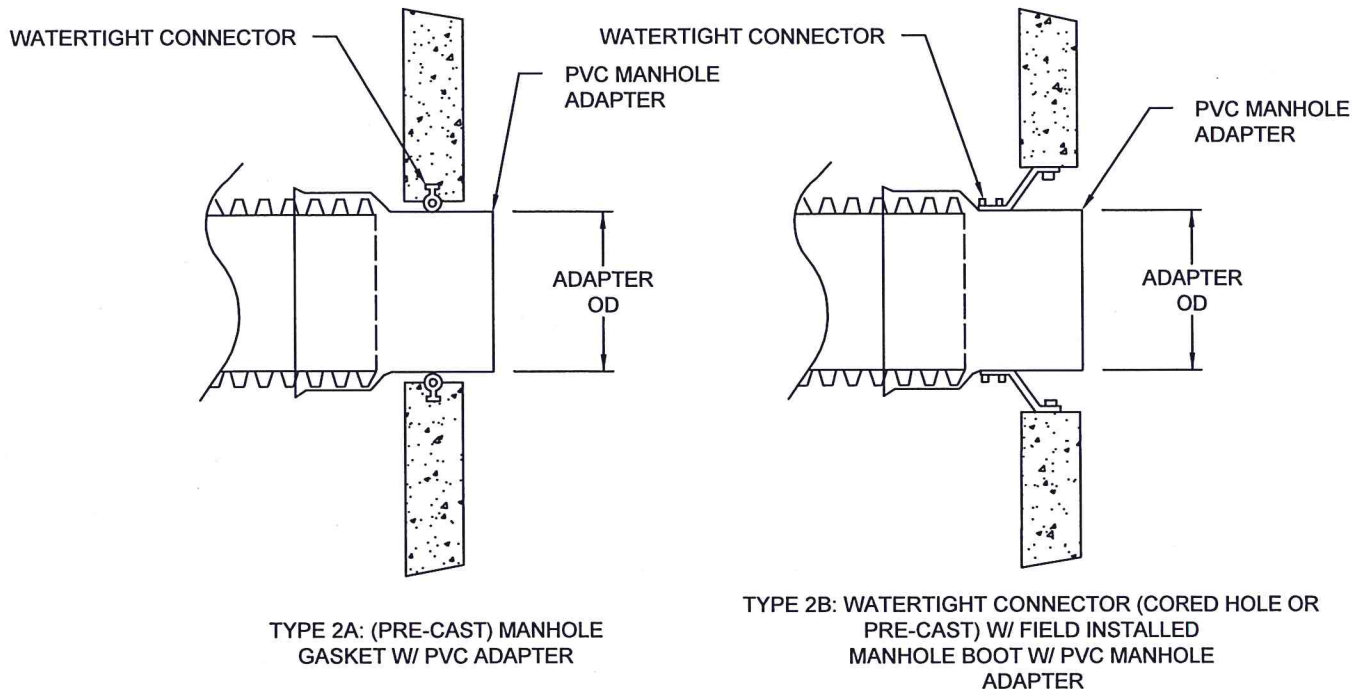
CONSTRUCTION STANDARDS AND DETAILS



D-14

SCALE: N.T.S.

ISSUE DATE: 07-24-12



**NOTE:**

1. SEE STANDARD DETAIL D-11 AND MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION RECOMMENDATIONS.
2. CONTRACTOR SHALL ENSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.

SEE STANDARD DETAIL D-11 AND MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION RECOMMENDATIONS.

**CITY OF KILLEEN**  
DEPARTMENT OF PUBLIC WORKS

**WATERTIGHT STRUCTURE  
CONNECTION TYPE 2 DETAIL**

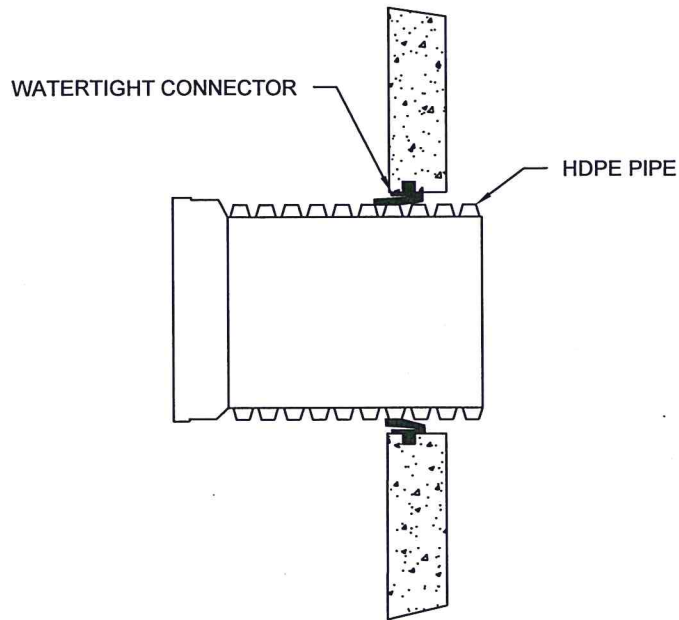
CONSTRUCTION STANDARDS AND DETAILS



D-15

SCALE: N.T.S.

ISSUE DATE: 07-24-12



TYPE 4: WATERTIGHT CONNECTOR (PRE-CAST MANHOLE GASKET)  
SECURED DIRECTLY TO EXTERIOR  
PIPE CORRUGATIONS

**NOTE:**

1. SEE STANDARD DETAIL D-11 AND MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION RECOMMENDATIONS.
2. CONTRACTOR SHALL ENSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.

SEE STANDARD DETAIL D-11 AND MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION RECOMMENDATIONS.

**CITY OF KILLEEN**  
DEPARTMENT OF PUBLIC WORKS

**WATERTIGHT STRUCTURE  
CONNECTION TYPE 3 DETAIL**

CONSTRUCTION STANDARDS AND DETAILS

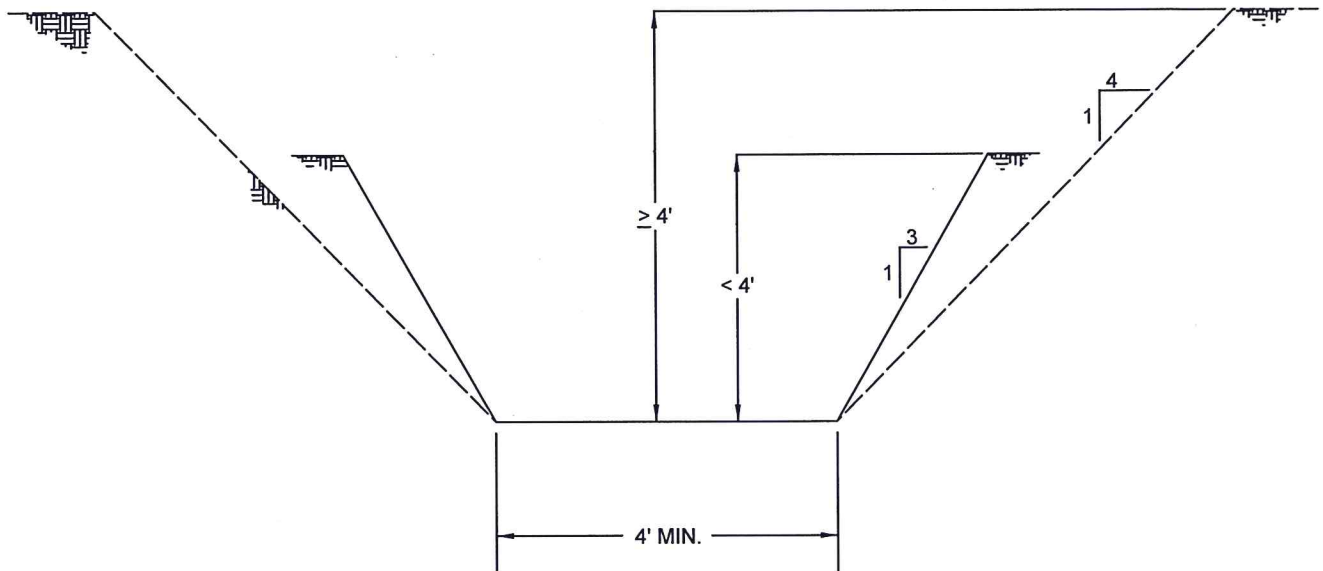


D-16

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NOTES:

1. MINIMUM LONGITUDINAL SLOPE OF CHANNEL IS 0.5%. FOR CHANNEL SLOPES LESS THAN 1.0%, A CONCRETE PILOT CHANNEL MAY BE REQUIRED BY THE DIRECTOR OF PUBLIC WORKS.
2. CHANNELS SHALL BE VEGETATED BY HYDRO-MULCHING, SODDING OR SEEDING.

**CITY OF KILLEEN**  
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**GRASS  
LINED CHANNEL**

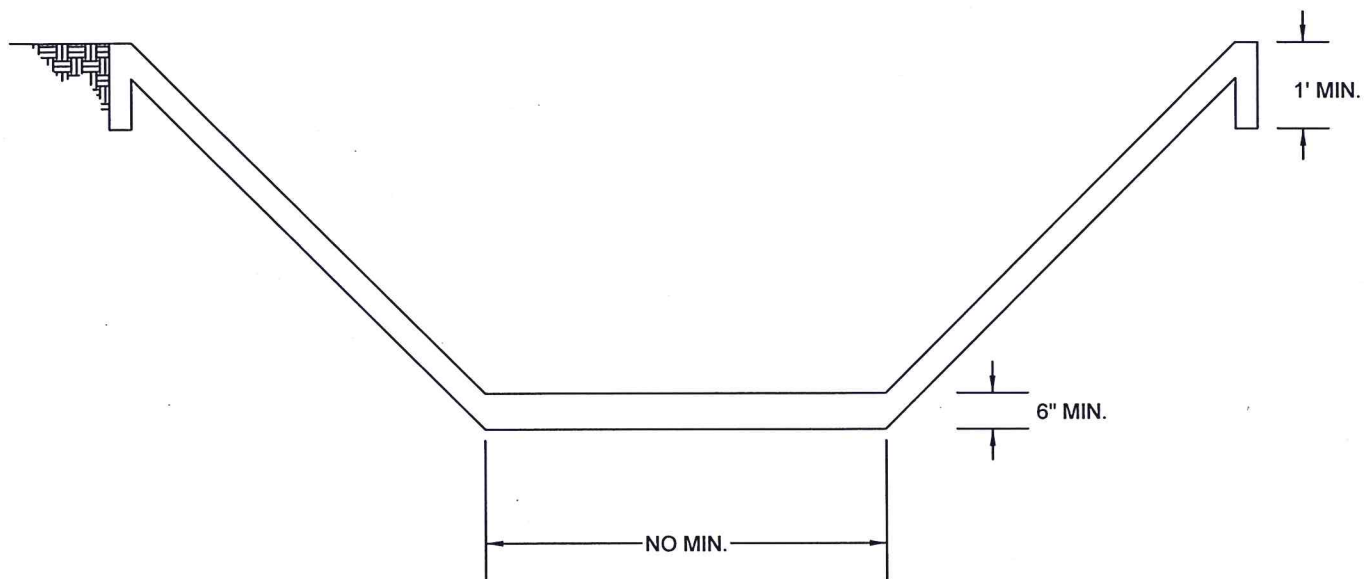
CONSTRUCTION STANDARDS AND DETAILS



D-17

SCALE: N.T.S.

ISSUE DATE: 07-24-12



NOTES:

1. CONCRETE SHALL BE MINIMUM 3,000 PSI COMPRESSIVE STRENGTH (28-DAYS).
2. MINIMUM LONGITUDINAL SLOPE OF CHANNEL IS 0.5%.
3. CONCRETE SHALL BE MINIMUM 6 - INCHES THICK WITH 1 - FOOT MINIMUM TOES AT EDGES.
4. REINFORCEMENT SHALL BE #4 ASTM A-615 GRADE 60 BARS, 12" ON CENTER EACH WAY. 6" x 6" # 6 WIRE MESH MAY BE SUBSTITUTED FOR # 4 REBAR. REINFORCEMENT TO HAVE 2" MINIMUM COVER.
5. ALL CONCRETE SHALL BE GIVEN A BROOM FINISH UNLESS OTHERWISE SPECIFIED.
6. SIDE SLOPES MAY BE AS STEEP AS VERTICAL.

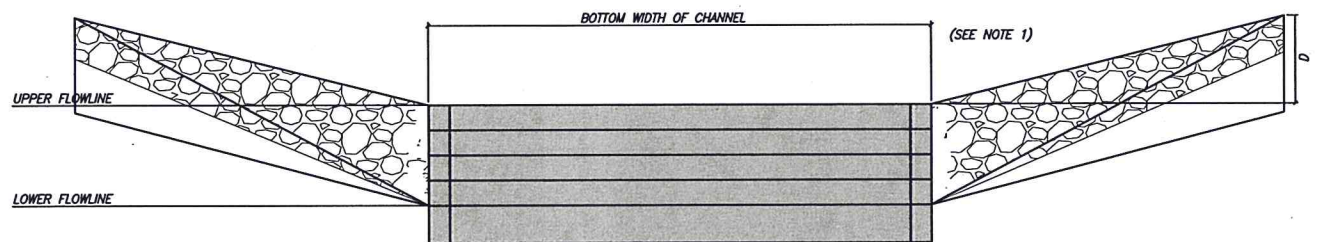
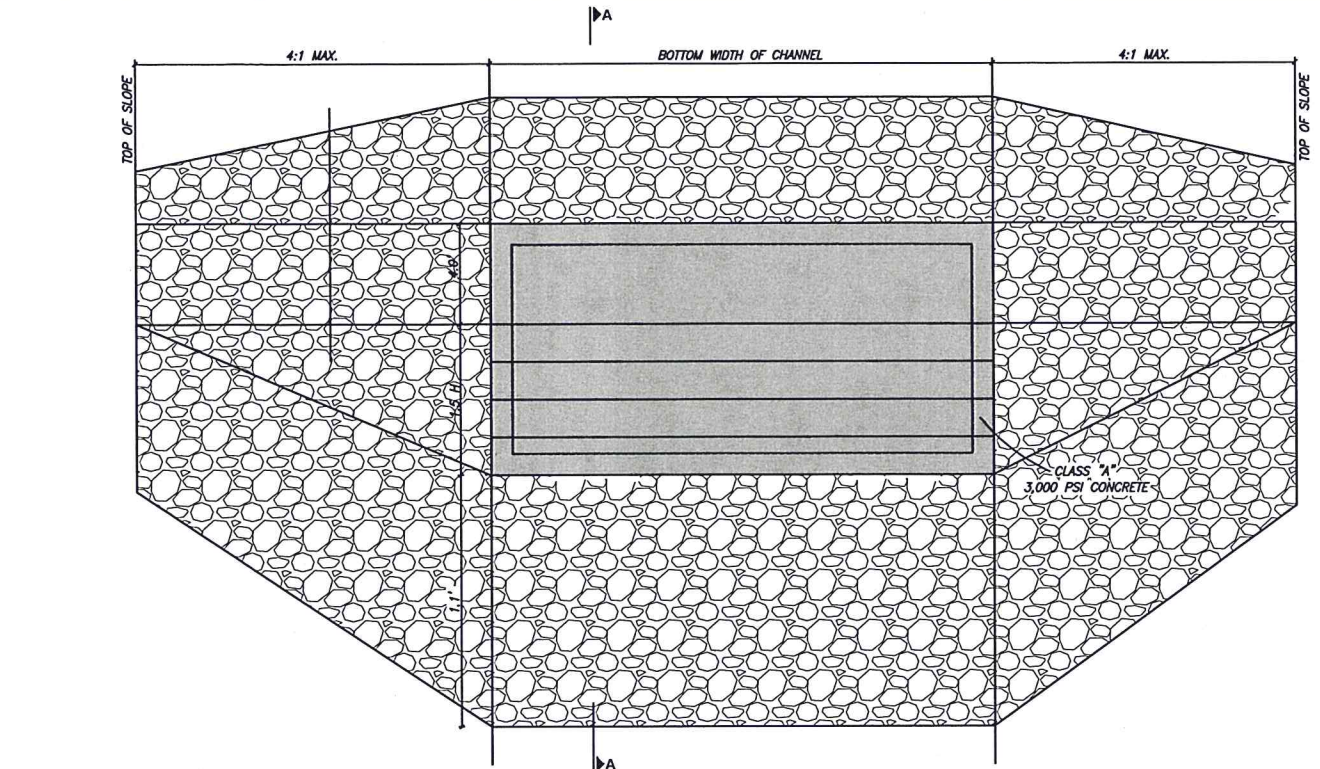
**CITY OF KILLEEN**  
DEPARTMENT OF PUBLIC WORKS

**CONCRETE  
LINED CHANNEL**

CONSTRUCTION STANDARDS AND DETAILS

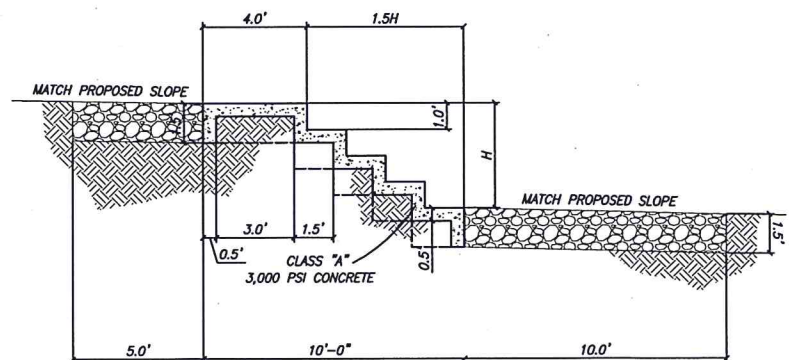


D-18  
SCALE: N.T.S.  
ISSUE DATE: 07-24-12



NOTES:

1. ALL CONCRETE SHALL BE A MINIMUM OF 3000psi.
2. REINFORCING SHALL BE #4 ASTM A-615 GRADE 60 BARS, 12" ON CENTER EACH WAY, 6 X 6 #6 WIRE MESH MAY SUBSTITUTED FOR #4 REBAR.
3. ROCK RIP-RAP SHALL EXTEND 10' FROM THE DOWNSTREAM SIDE AND 5' FROM THE UPSTREAM SIDE. SIZE OF RIP RAP SHALL BE DETERMINED BY DESIGN ENGINEER AND APPROVED BY CITY ENGINEER.
4. ALL EDGES OF CONCRETE DROP STRUCTURE SHALL HAVE 6 - INCH WIDE, 18 - INCH DEEP TOE.



CITY OF KILLEEN  
DEPARTMENT OF PUBLIC WORKS

DROP STRUCTURE  
DETAIL

CONSTRUCTION STANDARDS AND DETAILS



D-19

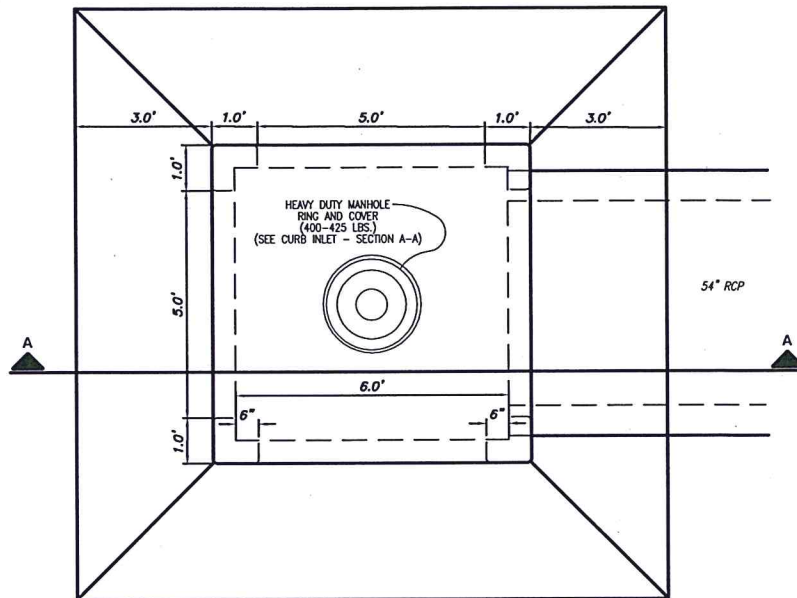
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**NOTES:**

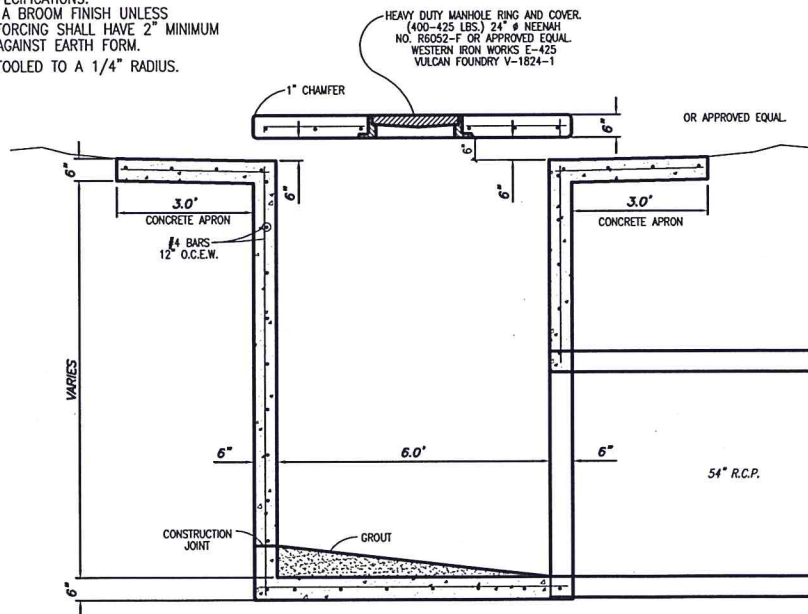
1. ALL CONCRETE SHALL BE A MINIMUM OF 3000psi.
2. REINFORCING FOR CONCRETE RIP-RAP SHALL BE #4 ASTM A-615 GRADE 60 BARS, 12" ON CENTER EACH WAY, 6 X 6 #6 WIRE MESH MAY SUBSTITUTED FOR #4 REBAR.
3. SEE SHEET D-02 FOR CONCRETE BOX CULVERT REBAR DETAILS.
4. SEE SHEET D-03 FOR CONCRETE BOX CULVERT WINGWALL DETAILS.
5. ALL 12" DIA. ROCK RIP-RAP SHALL BE A MIN. 1'-6" IN DEPTH.



**PLAN**  
NOT TO SCALE

**NOTES:**

1. CONCRETE FOR ALL ITEMS ON THIS SHEET SHALL BE CLASS "A", 5 SACK, 3000 P.S.I. CONCRETE AT 28 DAYS UNLESS OTHERWISE SPECIFIED ON THE PLANS OR SPECIFICATIONS. ALL CONCRETE SHALL BE GIVEN A BROOM FINISH UNLESS OTHERWISE SPECIFIED. ALL REINFORCING SHALL HAVE 2" MINIMUM COVER, 3" MINIMUM IF PLACED AGAINST EARTH FORM.
2. ALL EXPOSED CORNERS TO BE TOOLED TO A 1/4" RADIUS.



**SECTION A-A**  
NOT TO SCALE

**6' X 6' AREA INLET DETAIL**

**CITY OF KILLEEN**  
DEPARTMENT OF PUBLIC WORKS

**AREA INLET  
DETAIL**

CONSTRUCTION STANDARDS AND DETAILS

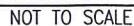
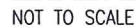


D-20

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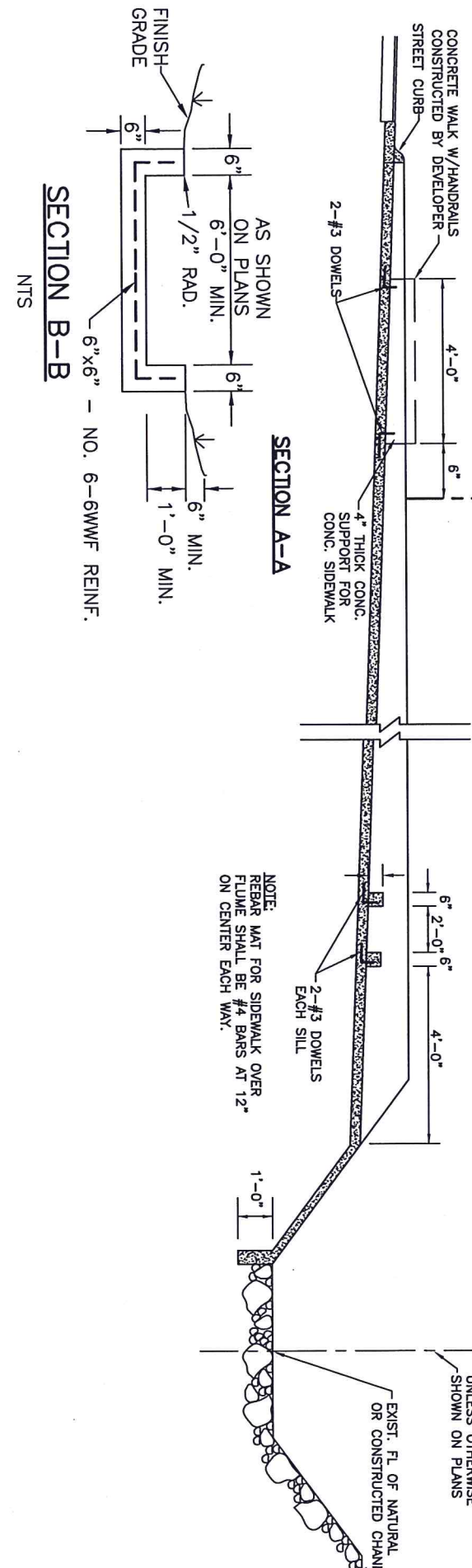
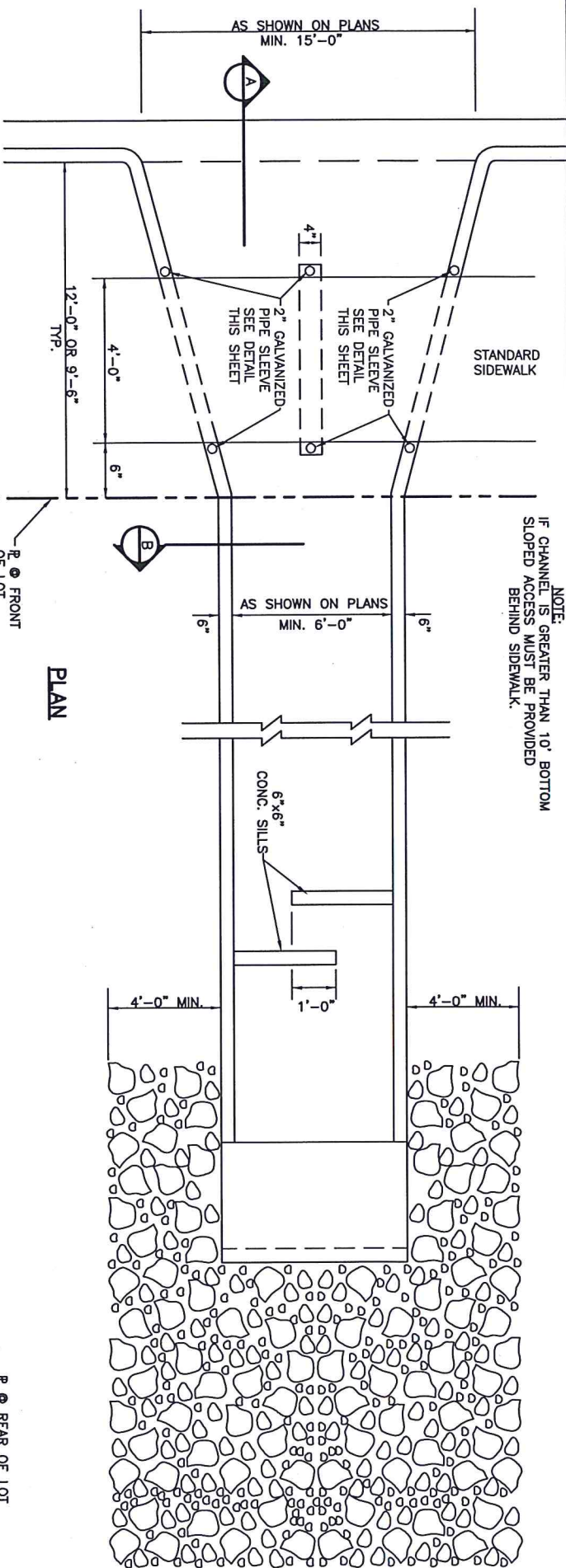
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